E FARM INDEX

ECONOMIC RESEARCH SERVICE • U.S. DEPARTMENT OF AGRICULTURE • APRIL 1967

ECONOMIC TRENDS

ITEM	UNIT OR BASE PERIOD	'57-'59 AVERAGE	1966			1967	
			YEAR	FEBRUARY	DECEMBER	JANUARY	FEBRUARY
Prices:							
Prices received by farmers	1910-14=100	242	265	270	258	255	252
Crops	1910-14=100	223	235	232	230	224	223
Livestock and products	1910-14=100	258	292	303	282	281	277
Prices paid, interest, taxes and wage rates	1910-14=100	293	334	329	337	340	339
Family living items	1910-14=100	286	315	312	318	318	318
Production items	1910-14=100	262	285	282	287	289	288
Parity ratio		83	80	82	77	75	74
Wholesale prices, all commodities	1957-59=100	—	105.8	105.4	105.9	106.2	106.0
Commodities other than farm and food	1957-59=100	—	104.8	103.8	105.5	105.8	105.8
Farm products	1957-59=100	—	105.6	107.4	101.8	102.8	101.3
Food processed	1957-59=100	—	111.5	111.8	110.6	110.7	110.3
Consumer price index, all items	1957-59=100	—	113.1	111.6	114.7	114.7	114.8
Food	1957-59=100	—	114.2	113.1	114.8	114.7	114.2
Farm Food Market Basket: [1]							
Retail cost	Dollars	983	1,100	1,095	1,097	1,091	—
Farm value	Dollars	388	442	459	419	418	—
Farm-retail spread	Dollars	595	658	636	678	673	—
Farmers' share of retail cost	Per cent	39	40	42	38	38	—
Farm Income:							
Volume of farm marketings	1957-59=100	—	120	93	130	124	91
Cash receipts from farm marketings	Million dollars	32,247	42,879	2,865	3,717	3,592	2,700
Crops	Million dollars	13,766	18,213	998	1,701	1,577	900
Livestock and products	Million dollars	18,481	24,666	1,867	2,016	2,015	1,800
Realized gross income	Billion dollars	—	49.5	—	51.1 [2]	—	—
Farm production expenses	Billion dollars	—	33.2	—	34.6 [2]	—	—
Realized net income	Billion dollars	—	16.3	—	16.5 [2]	—	—
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	6,885 [3]	519	632	532	—
Agricultural imports	Million dollars	3,977	4,492 [3]	371	352	413	—
Land Values:							
Average value per acre	1957-59=100	—	150 [4]	—	—	157 [5]	—
Total value of farm real estate	Billion dollars	—	171.1 [4]	—	—	179.7 [5]	—
Gross National Product: [2]	Billion dollars	457.3	739.6	—	759.3	—	—
Consumption [2]	Billion dollars	294.2	464.9	—	474.1	—	—
Investment [2]	Billion dollars	68.0	117.0	—	120.0	—	—
Government expenditures [2]	Billion dollars	92.4	153.0	—	161.1	—	—
Net exports [2]	Billion dollars	2.7	4.8	—	4.1	—	—
Income and Spending: [6]							
Personal income, annual rate	Billion dollars	365.3	580.4	564.7	601.8	607.5	609.9
Total retail sales, monthly rate	Million dollars	17,098	25,306	25,049	25,368	25,703	25,277
Retail sales of food group, monthly rate	Million dollars	4,160	5,927	5,879	5,861	5,913	—
Employment and Wages: [6]							
Total civilian employment [7]	Millions	63.9	72.9	72.3	73.9	74.3	74.1
Agricultural [7]	Millions	5.7	4.0	4.2	4.0	4.0	3.9
Rate of unemployment [7]	Per cent	5.8	3.8	3.7	3.7	3.7	3.7
Workweek in manufacturing	Hours	39.8	41.4	41.5	40.9	41.0	40.3
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.71	2.67	2.77	2.77	2.78
Industrial Production: [6]	1957-59=100	—	156	152	159	158	156
Manufacturers' Shipments and Inventories: [6]							
Total shipments, monthly rate	Million dollars	28,745	44,020	42,702	45,511	44,725	—
Total inventories, book value end of month	Million dollars	51,549	77,897	69,040	77,897	78,918	—
Total new orders, monthly rate	Million dollars	28,365	45,174	44,129	45,845	43,746	—

[1] Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1960-61—estimated monthly. [2] Annual rates seasonally adjusted fourth quarter. [3] Preliminary. [4] As of March 1, 1966. [5] As of November 1, 1966. [6] Seasonally adjusted. [7] Series revised beginning January 1967, giving data for persons 16 years of age and older.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

THE AGRICULTURAL OUTLOOK

The disposable personal income per capita of the farm population set a record last year of $1,731. This was $168 or 11 per cent higher than in 1965.

The rising flow of farm income, increased opportunities for income from nonfarm sources and a further decline in the farm population all helped boost the national average to the new record.

With the strong advance in output and in general business activity last year, disposable income per capita of nonfarm people also rose—to an average of $2,618, up 6 per cent from $2,466 in 1965.

Even with the more rapid rise in farm income, incomes of farm people were only about 2/3 as high as nonfarm incomes. This is a wide gap, but it's 20 per cent narrower than it was only 6 years ago. In 1960, per capita disposable income of farm people averaged only 55 per cent of that of nonfarm people.

How does agriculture fit into the increasingly urban, industrial life of the nation? A good part of the answer can be found in an industry breakdown of figures that go into Gross National Product, the most comprehensive measure of overall economic activity for the nation.

Gross National Product (GNP) equals the market value of final goods and services produced by the nation's economy. The stress is on "final." The final products include goods and services purchased by consumers and the government, capital goods purchased by producers, changes in inventories and net exports of goods and services.

A measure of *total* output, by contrast, would be a far less useful gauge of economic activity because it includes a double counting of output. Total output, for example, includes commodities and services sold by one producer to another to be sold yet again to other producers until reaching the final purchaser.

In such terms, agricultural output would include the value of the steak we eat, the slaughtered steer, the feed used to fatten the steer and the fertilizer used to help grow the feed.

Thus, the GNP is put together by adding values of purchases for final use. Purchases of intermediate products are excluded.

The market value of the final goods and services produced by the U.S. economy has risen dramatically in the past two decades. Starting from $231 billion in 1947, the GNP rose to $681 billion in 1965, an average annual rate of increase of 6.2 per cent. The increase is impressive even when the effect of price changes has been eliminated. The average annual rate of growth in constant dollars amounted to 3.9 per cent between 1947 and 1965. Averages, of course, mask the variations. Growth during the last half of the 1950's was 2.2 per cent a year, compared with 3.9 per cent between 1947 and 1965. During the first half of the 1960's, it amounted to 4.7 per cent.

The performance of individual industries, too, varied noticeably during the 1947-65 period. Industries such as chemicals, transportation equipment, electric power, automotive and telephones outstripped the national average of 3.9 per cent growth a year. Other industries like agriculture, textile mills and leather trailed the national figure.

For agriculture, the real GNP (with price changes removed) grew at an annual rate of 1.9 per cent, or less than half the rate for all industries in the private sector of the economy.

The GNP originating in agriculture is a net output concept. Behind it are two important aggregates: total value of output and consumption of intermediate products.

The total value of farm output includes cash receipts from farm marketings and CCC loans, the value of farm products consumed directly in farm households, the change in value of farm

inventories and the gross rental value of farm homes.

Cash receipts from farm marketings, which usually account for over 90 per cent of total value of output in current prices, generally reflect market prices and quantities that result from the interaction of supply and demand.

Demand for farm products is affected primarily by prices, incomes, consumer tastes and population growth. In economic terms, the demand for farm products is inelastic with respect to prices and income. In other words, people tend to eat about as much food, despite large changes in prices and incomes. Thus food consumption grows at about the same rate as the population.

Supply is affected mostly by farmers' response to output prices, availability and cost of inputs, technology, government policy and, always, the weather. If demand grows faster than supply, prices rise. If supply grows faster, prices fall. Apparently, the supply of agricultural products grew at a faster clip than demand during the 1947-65 period. Average output prices dropped from a level of 109 (1958=100) in 1947 to 99 in 1965. As a result, cash receipts in current dollars grew about 1½ per cent per year, compared with 2 per cent per year in constant 1958 prices.

Despite the long-term uptrend in cash receipts and total value of farm output, large year-to-year fluctuations have occurred. Most of these year-to-year changes can be traced to short-run supply conditions caused by weather and livestock production cycles. And, because the demand for farm products is inelastic, a sudden, big change in supply results in a much bigger change in prices.

Intermediate products consumed are deducted from total value of output to avoid "double counting." In the postwar years, the total value of these products has grown faster than the total value of output.

The value in current dollars of intermediate products has risen sharply since 1947 to a level of $19.5 billion in 1965.

Another factor is the growth of internal transfers within agriculture such as the purchase of feeder cattle and feedstuffs. The rapid growth in purchased items from the nonfarm sector has also played a part. Feed purchases are the largest single current expenditure made by farmers.

Purchases of feeder livestock have also grown significantly in the postwar period.

The demand for plant food has risen more rapidly than any other input originating off the farm and totaled $1.7 billion in 1965.

Gross National Product originating in agriculture equals the value added in agriculture or the total value of output less the cost of intermediate products consumed. In other words, the agricultural GNP represents agriculture's contribution to the nation's economic activity.

Within the concepts of the national income and product accounts, these calculations include returns to the factors of production plus certain other charges against production.

Compensation of hired farm workers showed little change during the 1947-65 period. Compensation of employees includes wages and salary payments as well as supplements to wages and salaries like employer contributions for social security.

The number of workers and the hours worked in agriculture have trended downward in recent years. Wage rates have been on the rise. Result: total hired labor bill in agriculture has held steady since 1947.

Returns to operator and family labor are included in net farm income along wtih returns on investment and profit from current business operations. The net farm income component of the GNP originating on farms (not including government payments) moved downward between 1947 and 1965. On a per farm basis, net farm income rose substantially, as the number of farms dropped.

Net interest payments rose faster than any other component of farm gross product during the 1947-65 period, rising from slightly less than $0.3 billion (current dollars) to $1.7 billion. This was an average annual rate of over 10 per cent. Greater reliance on external sources of funds, higher interest rates and increased use of capital goods explain a great deal of the rise. The capital consumption component also grew sharply.

PAINTING THE OLD BARN?

It may not be worth it. Today's farmer might better consider a new set of service buildings designed to contribute more to the productivity of his farm.

The old red barn with its wobbly weathervane is a treasure to the roaming Sunday artist. But what's it worth to Farmer Brown who owns it? He may well ask himself:

"Have I gotten my money's worth out of it? How much of my production costs does it represent? Should I replace it? How much should I spend for new buildings?"

These are questions that most farmers must ask themselves sooner or later.

Before considering specific situations, let's take a look at the present status of farm buildings in general.

Farm service buildings account for a major part of the capital invested in many types of farms. They are a national asset valued at $15 billion. This is nearly equal to the value of livestock and is about two-thirds of the value of machinery.

These buildings can mean the difference between profit and loss when combined with other production factors. Yet, after the original investment, the annual costs of maintaining and using farm service buildings are seldom more than 10 per cent of a farmer's production costs.

While farm buildings (excluding dwellings) have increased in value since 1950, their percentage of total investment in real estate has dropped. Buildings are now about one-tenth of the value of all U.S. farm real estate, compared with one-sixth in 1950.

A survey of Corn Belt farms in 1964 shows that buildings on cash-grain farms are about 7 per cent of total farm investment and a little under 10 per cent of farm real estate value. Hog and beef farm buildings make up 12 to 15 per cent of total investment and as much as 27 per cent of the real estate value. Dairy and poultry farm investments are about the same as for beef and hog farms.

The relative importance of service buildings as a part of total investment will probably continue to decline—as it has in the past 15 years—because of advances in technology, more specialization, pressures on available land resources and rapid farm consolidation.

After the initial investment, annual costs of using farm service buildings include a depreciation allowance, interest on investment, maintenance and repairs, taxes and insurance.

If a farmer estimates the useful life of his buildings at 20 years and expects a return of 6 per cent on his investment, his annual costs will usually run from 9 to 12 per cent of the initial cost.

In Illinois, for example, annual building costs range from 6.3 per cent of total farm operating expenses on two-man cash-grain farms to 12.5 per cent on one-man dairy farms; and from 8 per cent on hog farms to 11 per cent on beef farms.

Nationwide, on an enterprise basis, milk production tradition-

ally requires buildings that run up about 10 per cent of the enterprise production expenses; poultry 9 per cent; beef cattle, 8 per cent; sheep, 7 per cent; hogs, 6 per cent; corn, 5 per cent; and coarse grains, 3 per cent.

These relationships are likely to be altered by changes now taking place in farming. Obsolescence of present farm buildings may be hastened. New buildings will contribute much more to production in the future.

For one thing, farm consolidation is striking at the usefulness, and hence the value, of many existing service buildings.

This country had nearly 7 million farms in 1935. Today it has little more than 3 million. Continuation of the annual decline is expected over the next 10 years.

During 1950-54 only about one-fourth of farm purchases were to enlarge an existing farm. In 1965 over half the purchases were for farm enlargement.

When two farms are combined, one headquarters unit usually becomes surplus.

And how about the dwelling, machine shed and perhaps other buildings on the newly-acquired land? Their value to the new owner is questionable. They may not be needed. Their location may be inconvenient.

Thus it's not unusual for prospective buyers and lenders alike to essentially ignore a farm's buildings when determining its value.

Dairy facilities are an example. In 1959 nearly 60,000 Illinois farmers kept dairy cows; by 1964, less than 30,000. Farm enlargement and shifts to other enterprises caused part of this decline. On the farms where dairying was dropped, the dairy facilities are of little use, regardless of their condition.

Problems arise, too, when enterprises are intensified in the course of farm enlargement.

Existing building and farmstead layouts designed for small operations are seldom efficient for large-scale operations, especially when handling materials is mechanized, as in feed processing.

Farm enlargement also adds to the problem of machinery storage. The added farm's space for machinery may be too far away from the main center of operations for the enlarged farm.

Furthermore, farm expansion usually means larger field equipment that may not fit into existing storage space.

When construction of new farm buildings becomes necessary, today's farmer can benefit from advances in farmstead engineering that relate efficiency of buildings to technological developments. (Some aspects of farmstead engineering will be discussed in a subsequent *Farm Index* article.) (*1*)

Dairy Farms Becoming Fewer, Bigger, Reporting More Milk Cows Per Farm

The pace of the trend to fewer but larger dairy farms quickened between 1959 and 1964.

There were about 1.8 million farms reporting 16.5 million milk cows in 1959. In 1964, 1.1 million farms reported 14.6 million milk cows. In the same period, the average number of cows per farm rose 40 per cent.

Farms selling milk and cream dropped at about the same rate, going from 1 million to 650,000.

Larger commercial dairy farms —with gross sales of $10,000 or more—increased during this period, while the number of smaller dairy farms dropped sharply.

Some dairy farmers have gone into other farm enterprises or have found non-farm employment that offered them better economic opportunities.

As demand for beef has continued to rise and demand for milk has dropped off, some dairy farmers have been attracted to beef production, as it requires many of the same resources as dairy farming. (*2*)

Shift in Production Areas, Marketing Patterns, Alters Face of Dairying

Number of dairy herds: down. Number of milk cows: down. Output per cow: up.

Much has been said about these long-term trends in U.S. milk production. But two other major dairy adjustments are now taking place that deserve some increased attention—the shift toward selling only one grade of whole milk from farms and the concentration of dairying in regions where resources are most favorable.

Most U.S. farms already have switched over from selling farm-separated cream to selling only whole milk. And the trend to marketing a single grade of whole milk—grade A—is rapidly gaining. In 1965 some 69 per cent of whole milk sales by farmers were grade A, compared with 61 per cent in 1950. By 1975, 80 per cent or more may be grade A.

The transition to grade A milk has practically been completed in the North and South Atlantic States and is close to the 80 per cent mark in the South Central and Western regions. Only the North Central States still have a major pool of grade B milk.

U.S. milk production in the 48 contiguous states rose 8 per cent between 1949 and 1965, but shifted to the Northeast, northern Midwest and Western States.

Milk production gained 23 per cent in the Northeast and Lake Regions and 29 per cent in the Pacific Region during the 1949-65 period. Increases in the West were to meet needs of a rapidly expanding population. In the Northeast and Lake States, lack of more profitable farm enterprises kept resources in dairying.

Production declines were primarily in the Southern and Northern Plains, Delta States and the Corn Belt. In these areas, resources generally were more profitable when used for grain, meat or other enterprises. (*3*)

the awkward age

Growing up brings problems as well as greater farming efficiency.

Progress from the rural point of view has a different look. It is not necessarily the same thing as the economic progress taken for granted in the urban parts of the country.

Take North Dakota.

In 1960, a third of all employed persons in the state worked in agriculture. The national average was 7 per cent.

A large part of the total economic energy of the state goes into providing the farmer with goods and services, mostly production items. But personal needs for his family also swell the bill.

Agriculture in North Dakota is more highly mechanized than it is in other parts of the country. The state has more tractors and grain combines per 100 farms than any other state. And it is near the top of the list in numbers of farm trucks, pick-up balers, forage harvesters and such.

But while mechanization is one of the prime forces in the drive for efficiency on the farm, it also cuts into job opportunities.

Mechanization has helped to slash the ranks of the farm labor force far more than it has reduced the number of farms. The number of family workers, for example, has been cut in half, dropping from 131,000 in 1947 to 64,000 in 1964. The number of hired workers fell from 22,000 to 14,000.

Thus, the total farm labor force declined 49 per cent during the 17-year period, while the number of farms dropped only 27 per cent.

North Dakota is one state that has not increased population since before World War II. And though it has the same number of people, more of them are in the state's larger towns and cities. The city population grew from a scant 132,000 persons in 1940, to about 250,000 in 1966. Practically all the increase was in cities of 10,000 persons or more.

While the major urban centers have been overwhelmed with a rise in population, North Dakota has had to cope with problems resulting from a population slowly ebbing away. Net out-migration from North Dakota totaled 105,000 between 1950 and 1960, resulting in a drop of 17 per cent from the 1950 level.

For the entire state, the population now stands at about 652,000, considerably less than the population of, say, Dallas, Texas.

Although the flow of migrants from rural areas includes the young and the old, men, women and children, the stream tends to carry more of one group than another. A high proportion of the migrants are under 35 years of age, for example. And rural girls tend to leave home at a younger age than the boys do. Generally, it is within a year or two of graduation from high school. The boys are more apt to stay around until their mid-twenties.

The future may produce much of the same.

A handful of the larger villages in the state will prosper with the better transportation and the consolidation of the farms.

For the rest, it likely will be bigger farms, fewer workers, fewer small towns. (*4*)

There's Tarnish in the Golden Years, In the Opinion of Elderly Rural Men

Are there any advantages to growing older? Very few, according to 312 rural men aged 60-plus in Kentucky.

A recent ERS survey of the attitudes of elderly rural and urban men concerning aging pointed up the fact that rural men were more pessimistic about growing old than their urban counterparts. Sixty per cent of the rural men interviewed said there were no good points whatsoever to getting old, compared with only 46 per cent of the 220 urban men asked this question.

Half of the urban men, but only one-quarter of the rural men, maintained that aging had its advantages, chiefly: more wisdom, knowledge and experience; more leisure, more time to enjoy grandchildren; and retirement benefits.

The rural Kentuckians also revealed their substantially poorer morale when queried on their outlook concerning life in general. About half of the rural men, compared with only a third of the urbanites, thought that the life of the average man today was getting worse, not better. Almost half of the rural men, only 36 per cent of the urban men, felt their lives could be more useful than they currently were. (*5*)

and now Tomorrow

From greengrocer and butcher shop to foods the year-round in block-long buildings, marketing has come through a revolution.

When the great American consumer chooses to spend more money on agricultural products the effect reaches far beyond the edges of the nation's farms.

If, for example, gross output of farm products increases by $100, agriculture has to buy an extra $27 worth of seed and livestock and other goods and services from itself to fill the need.

In addition, agriculture must increase by $9 its purchases from manufacturers of farm machinery, chemicals and other agricultural supplies. The farms will also have to purchase an extra $6 worth of feeds and other processed products of farm origin. And there will be an increase of $16 in their purchases from other industries such as retailing, wholesaling and transportation.

Gross output of agricultural products, however, does not increase by hundreds of dollars. Rather, it tends to climb by many millions of dollars annually. In the late 1940's, the total value of farm output averaged $31 billion. In 1965 it was around $43 billion.

Since World War II, the volume of food marketed for domestic consumption has increased by more than two-fifths. Export markets have more than doubled. And the output of services by food marketing industries has increased faster than has the output of physical goods.

This growth has forced major changes in the various food marketing industries.

The pre-eminence of supermarkets and the great retail chains rate as the principal change for the years since the war. As they have risen to dominance, they have modified not only food retailing but often as not the business of wholesaling and processing as well. Many a retailer, for example, takes on part of the job of manufacturing as he contracts for products that meet certain specifications and carry the retailer's own label.

Another salient characteristic of today's marketing system for food is the trend to fewer and larger firms, in processing and assembling as well as retailing. To the extent that the bigger operation has increased efficiency, consumers and farmers alike gain.

But many of the changes raise real questions concerning the general good. And a number of studies in the past year or so have attempted to measure the results of the major changes in the food marketing system.

Herewith, then, are some of the statistics gathered by the Economic Research Service in their studies of the performance of the marketing system. These figures relate to livestock and meat. Later issues of the Farm Index will highlight changes in other areas of the marketing system. (6)

Livestock industry growth poses a question for the trade: How long will the trend to more and smaller plants continue?

The American farmer gets about a third of his cash farm income from the sale of livestock.

And to the American consumer, meat is increasingly important.

In the late 1940's, Americans ate less than 150 pounds a year of beef, pork, lamb and veal—with most of the total about evenly divided between beef and pork. Today, the average is around 170 pounds. All the increase has been in beef.

Thus, any change in the marketing system for livestock and meat could appreciably affect both farm income and the nation's diet.

Here are some of the key changes of the past two decades and some present trends:

Concentration is down, profits are low. The industry is less concentrated today than it was 20 years ago. For example, the top four meat packers accounted for 41 per cent of the value added to product in 1947, only 31 per cent in 1964.

Their customers are even less dominant. The top 20 packers produced over half the red meat in the country in 1964. But the top 20 customers bought only 32 per cent of their output.

The industry as a whole achieves lower rates of earning than other branches of the food industry, though some specialized slaughtering services have fared better than the group in general.

Packers do little of the feeding. There isn't any sign of packers dominating the business of producing fed cattle. Only 4 per cent of the beef produced by the top eight packers in 1964 came from their own lots.

Direct selling is on the increase. Two out of every five head of cattle fed in 1964 came from lots with a capacity of more than 1,000 head. Seventy per cent of the cattle were sold direct to packers.

Looking at it the other way around, only 36 per cent of all cattle and 24 per cent of the hogs moved through terminal markets in 1964. In 1940, some 75 per cent of the cattle and 47 per cent of the hogs were sold through terminals.

The wholesale-retail margin has been rising. The farm-to-wholesale portion of the marketing margin, at 10 cents a pound for beef and 13 cents a pound for pork, has been fairly stable in the past decade. At the same time, the wholesale-to-retail margin has been on the rise. The spread for beef, pork, lamb and veal rose from 15.3 cents per pound in 1955 to 20.9 cents in 1964. However, the true level of the wholesale-retail margin is lower—possibly by as much as 3 to 7 cents—because prices used to compute the margins underrate the importance of retail specials.

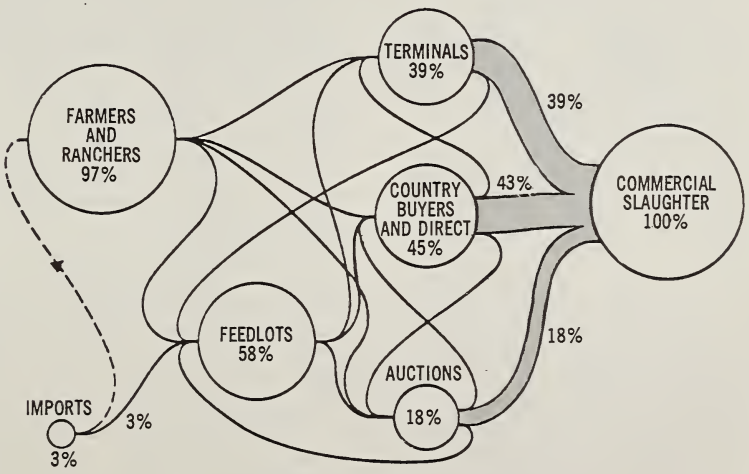
Most fresh meat is sold without brands. Seventy per cent of all beef, veal and fresh pork is sold without brand, but only 10 per cent of the cured pork (hams, bacon and so forth).

A look ahead. Meatpacking will continue to be a widely scattered operation handled by many small and medium size firms. But technological changes may catch up with the smaller plants, forcing them to expand and to modernize as the big firms have.

The trend away from concentration may be slowing down and could in time reverse itself as intermediate and large firms reassert their power in the industry.

Too, the industry is likely to turn more to vertical integration, as packers try to reduce procurement costs and get assured supplies of quality specifications for large buyers. (*7*)

CATTLE FROM FARM TO MARKET: In 1950, some 75 per cent of the nation's cattle was sold through the big terminal markets. But not today. Country buyers and direct sales accounted for 45 per cent of the cattle sales in 1965.



All figures expressed as a percentage of total commercial slaughter volume
_ Volume data not available for these channels
▲ Less than .5 percent

U.S. DEPARTMENT OF AGRICULTURE NEG ERS 4849-67(2)

High Quality Haymakers and Traders Can Profit from Quality Standards

Hay is older than the first domesticated horse. It's always been hard to market effectively because of two characteristics: bulkiness and wide variations in quality.

Quality divergencies have been especially frustrating to hay producers, traders and users.

Farmers have found that performance of an animal may be influenced by the quality of hay it eats. They would willingly pay more for high quality hay that improves performance. And this would at the same time increase marketing efficiency, as the difference in hay quality would be reflected in price differences.

But it's been difficult to come up with an accurate set of grading criteria. Some important factors that contribute to high quality—especially protein and moisture content—aren't visible.

Official grades and standards for today's hay—set up by the USDA in 1923—are based on visual inspection of hay. They are no longer adequate to do the job that developments in animal nutrition demand. And over the years, members of the industry have worked out their own informal grading systems.

Now, the University of Nevada and the Economic Research Service have developed a set of experimental standards for alfalfa hay.

The experimental grades, which add protein and moisture content to present official criteria, have been evaluated by 82 hay producers, 19 dealers and 72 users. The majority of them say that the experimental grades now available would be:

—acceptable to a large proportion of the hay market;

—used by feeders to select hay suited to their needs from various lots offered for sale;

—used by dairymen to adjust the quality of the forage they buy to balance the concentrate rations they normally use.

In adding laboratory tests to the visual criteria now used, grading costs under the experimental standards are higher. But many users—and producers to a lesser extent—say they are willing to pay part of the greater expense.

The newly developed experimental standards may or may not be incorporated into the official U.S. Hay Standards.

Their use, however, is expected to increase as their advantages become wider known, and as costs are reduced by introduction of new sampling equipment and laboratory techniques. (*8*)

Biggest Slice of Apple Harvest Is Delicious—From Washington State

Tradition has it that the first apple seed to be planted in Washington Territory was brought there by a sea captain who pocketed the seed at a farewell dinner party in London.

Be that as it may, the state of Washington is today by far the leading apple producer of the Nation. Its 1966 crop was 33 million bushels—one-fourth of the total U.S. apple harvest.

New York was next, with a crop of 23 million bushels, followed by Michigan with 16 million. California, with 12½ million bushels, displaced Pennsylvania for fourth place.

Red Delicious continued to be the most popular variety in the U.S. (35.2 million bushels), followed by McIntosh (16.8 million) and Golden Delicious (12.9 million). All are winter varieties.

Jonathan, a fall variety, came in at 9.2 million bushels. The harvest of Gravenstein — leading summer variety, used mostly for processing—was 3.2 million.

Altogether, the 1966 apple crop of 130 million bushels was 5 per cent below 1965's but 4 per cent above the 1960-64 average. (*9*)

U.S. Milk Production Declines in '66, Manufactured Milk Products Gain

The milk pail was a little less full last year.

Milk production for the nation dropped off 3.9 billion pounds from 1965 to 1966.

Even with the downtrend in farm use, the milk production figures suggest that marketings were off 3 per cent for the year. The use of milk for manufacturing was down some 5 per cent.

The manufacture of butter slackened notably for the year. So much so, in fact, that the decline more than offset stepped up use of milk in cheese, condensed milk (case goods) and evaporated milk.

Total volume of creamery butter ran to 1,119 million pounds in 1966—15 per cent below the 1965 level. Manufacture of cheese, on the other hand, set a record at 1,874 million pounds—7 per cent above the previous high in 1965.

Though ice cream production dropped slightly, ice milk output was up 5 per cent and sherbet gained 3 per cent. The 837 million pounds of creamed cottage cheese made in 1966 was about the same as production for the year before. Evaporated milk output was up about 2 per cent; nonfat dry milk production in 1966 dropped 20 per cent.

The production figures began to tell a different story in August last year. Then the amount of milk used for major manufactured products began to exceed year earlier figures. It has continued higher ever since.

On the basis of milk equivalent (fat solids basis), output of manufactured dairy products in the fourth quarter of 1966 was about 7 per cent higher than a year earlier.

Increased production—compared with year-earlier periods—has been continuing in the first quarter of 1967. (*10*)

AFRICA AND ITS AGRICULTURE

Slopes of Kilimanjaro; rain forests of the Congo; plains of the Gezira; oases of the Sahara; and the *veld* of the Transvaal.

They may be only a dream world to the armchair traveler. But they are very real pieces of land to the Africans who till them and harvest their yields of coffee, cotton, fruits, meat.

At the same time, they are representative of the sharp contrasts that characterize Africa's agriculture—contrasts in crops and cultural methods, in geographic, economic and political climates.

Last year, Africa as a whole (39 independent nations and 18 dependent territories) was beset by a more-than-usual variety of problems, natural and manmade.

As a result, agricultural output of the continent did not quite come up to the level of 1965.

On a per capita basis, production declined 3 per cent from 1965 to 99 per cent of the 1957-59 average. In six of the past eight years, however, it has been above the 1957-59 average.

Three countries—the Republic of South Africa, the United Arab Republic (Egypt) and Nigeria (most populous African nation) —weigh most heavily in Africa's overall farm output.

Three crops, too—coffee, cotton and cocoa — are Africa's biggest money earners in the international market for agricultural commodities. So a shortfall in any one of them hurts the total agricultural economy.

In 1966, the Republic of South Africa was the only one of the major producing trio that was able to increase both its total and per capita production over 1965. Last year was exceptionally good for sugar, deciduous fruit and wool.

While the UAR maintained or exceeded production volume of most crops, its all-important cotton harvest was cut 8 per cent by insect damage. Thus total farm output stayed about the same as a year earlier, and per capita output fell off slightly.

Nigeria—world's largest supplier of peanuts, palm oil and palm kernels, and second-biggest cocoa trader—also was unable to raise its total production above that of 1965 and showed a slight per capita decline.

Political instability in Nigeria was no help. Northern drought, however, had even more to do with the sharp drop of about 25 per cent in the country's peanut crop.

In general, heaviest country declines were in drought-hit North and West Africa.

More fortunate were the central, eastern and southern countries. None of them recorded any reductions from 1965 farm output.

As for commodities, two of the big three—cotton and coffee—fell off slightly last year.

Angola's bumper coffee crop put the territory in No. 1 place as an African coffee producer and third largest in the world—though well behind Brazil and Colombia.

Ivory Coast usually leads the field of about a dozen important coffee - producing countries in Africa, but its 1966 crop was down nearly a third from a year earlier.

Cocoa is Africa's third-ranking commercial crop. The 1966 harvest was considerably better than that in 1965 even though Ghana —top producer with 405,000 metric tons—suffered a slight loss. Nigeria upped its output 35 per cent.

The larger supply of cocoa, coupled with higher world prices, is one of the brightest spots in Africa's 1967 trade outlook.

Over $4 billion worth of African agricultural products will be marketed abroad this year if exports are maintained at the 1965 level. The United States is a customer for around $500 million worth, about half of which is coffee. (*11*)

All Is Not "La Dolce Vita" for Many Italians Who Leave Farms for Cities

All roads don't really lead to Rome. A lot of them lead to other cities in Italy. And a million Italian workers are expected to take to these roads in the next five years.

Farm-to-city migration has already cut down Italy's farm labor ranks. At the same time, it has proved a big source of labor for industry.

Fifteen years ago, 43 per cent of Italy's population was on farms. Only 25 per cent is now. Farms, however, now contribute only 14 or 15 per cent of the country's gross national product, compared with a little over 20 per cent at the beginning of the 1950's.

(In the United States, about 6 per cent of the population lives on farms, and farms account for about 3.2 per cent of the GNP.)

Some of the Italian migrants who have left the farm might have been better off if they hadn't. There have not been enough jobs to go around.

A general recession in 1964 and early 1965 curtailed employment, especially in the construction industry. Also, increased modernization of factory equipment and more intensive use of labor reduced the demand for labor.

At the beginning of last year, Italy's unemployment rate was at the highest level in six years—5.2 per cent.

By mid-1966, however, unemployment had dropped to 3.6 per cent—close to the U.S. level.

In recent months, the economic situation has continued to show definite signs of improvement. Investment appears to be on the upswing and this should further reduce unemployment. (*12*)

Export Earnings

Exports in fiscal year 1966 contributed approximately 17 cents to every dollar U.S. farmers received for their products.

Sales abroad accounted for 20 cents or more of each farm market dollar in 11 of our 50 states in fiscal 1966, 30 cents or more in three states—Kansas, Idaho and North Dakota.

Back in fiscal 1954 (the year before exports were made under Public Law 480) only 10 cents of every U.S. farm market dollar came from the export market. And only one state, North Carolina, earned as much as 20 cents from farm sales abroad per dollar of cash receipts. (*13*)

Half of the Middle Eastern Farm Basket Filled by Turkey Last Year

Turkey continued to shoulder about half the load of West Asia's farm production last year, and was aided by favorable weather. Iran, too, had a generally good crop year.

The net result: Total West Asian farm output in 1966 rose nearly 4 per cent over the 1965 level, though per capita farm output edged up barely 1 per cent.

Other countries of West Asia are Cyprus, Iraq, Israel, Jordan, Lebanon and the Syrian Arab Republic.

These countries—plagued by ill-timed rains, windstorms or drought—suffered crop losses ranging from mild to disastrous.

Bumper grain and cotton crops helped boost 1966 Turkish farm output 30 per cent above the 1957-59 average. Iran's biggest crop gains were in wheat and sugarbeets.

Despite shortages in some commodities, 1967 exports from the West Asian region are expected to run close to the $600 million average of recent years.

Major exports to the U.S. are specialty fruits, nuts, Turkish tobacco, wool, hides and skins. (*11*)

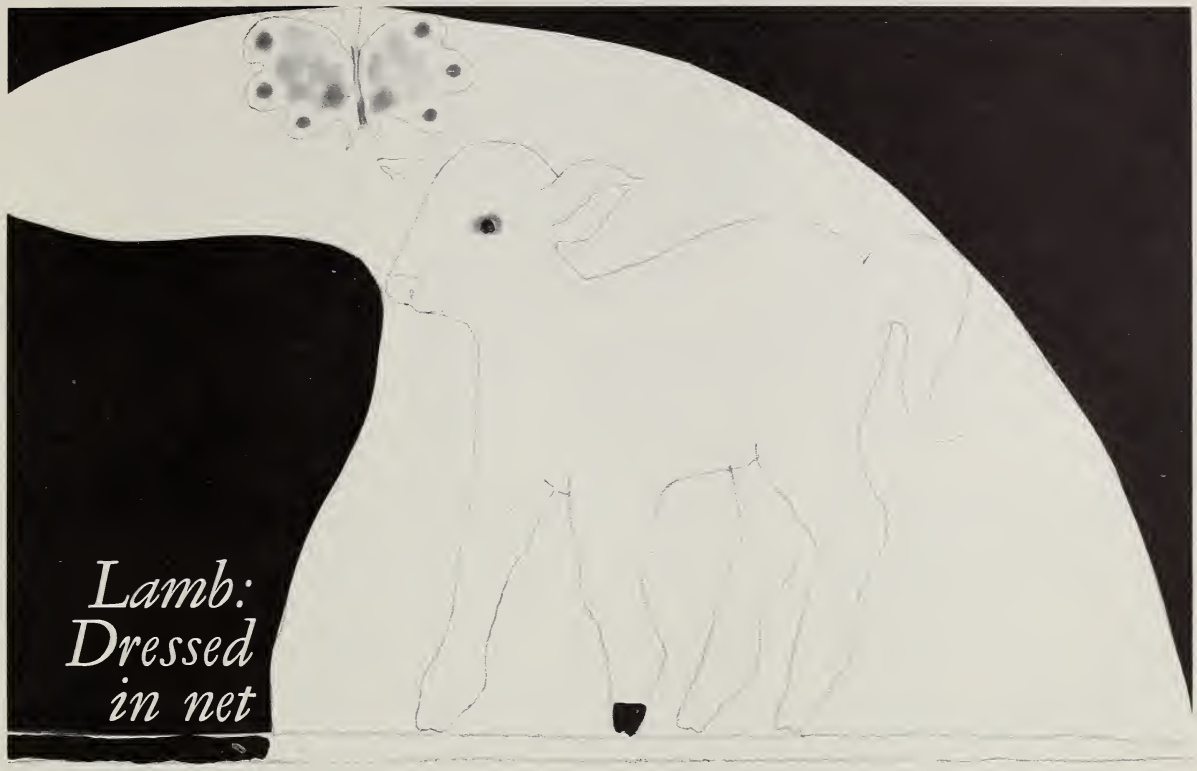
Foreign Spotlight

NORWAY. A Norwegian firm has developed a high-protein product—based on herring, with skimmed milk and fats added—that contains about 1,100 calories per pound. The developers say it can be produced for 16 cents per pound and mass output could reduce cost.

PAKISTAN. Pesticides used by Pakistani cotton farmers will be supplied this year by a new factory near Lahore. However, Pakistan will still import large quantities of insecticides. It imported $4.5 million worth from the United States in 1966.

MEXICO. Plan Chapingo, a scheme that centralizes the administration of Mexico's agricultural research and extension service activities, was officially inaugurated on February 22, 1967. The plan is designed to help Mexico better satisfy its own needs and also to aid in implementation of world food programs.

U.A.R. Egypt plans to export 400,000 metric tons of rice in 1966/67, 100,000 more than in 1965/66. Contracts have already been let for 300,000 tons, valued at $50 million. Additional water from the new High Dam at Aswan will be available for increased rice plantings this spring. (*14*)



Lamb: Dressed in net

New fashion in convenience foods designed to whet nation's appetite for lamb, and even beef-eating Texans seem to like the idea.

Netting fish and butterflies is one thing. Netting lamb is something else again.

Netted lamb is a new product developed by the American Lamb Council in an effort to stimulate America's flagging appetite for the meat.

Preliminary market tests indicate that the industry may be on the right track.

Up to now, consumer demand for lamb has been limited by the types of retail cuts offered. Lamb chops have an expensive reputation. Legs and shoulders represent a rather large amount of meat for a single purchase.

The answer to retailing problems and to consumers' desires may be netted lamb roasts.

They are making their debut in three forms: deboned leg, boneless shoulder and scotch roast.

Scotch roast is made from the meat that remains on the carcass after shoulders and legs (and chops) have been removed. This remainder is ground and rolled into the rib sections to give it traditional shape.

Each type is compactly encased in a close-fitting net that looks much like a finely meshed fish net.

Using the new merchandising method, all of the lamb carcass is readily salable. Thus prices of the various cuts can be made more reasonable since the less desirable cuts need not be sold at a loss.

Reaction to the netted lamb has been highly favorable in marketing and consumer surveys carried out in Texas urban areas with a total population of about 180,000.

About one-third of the buyers during an 11-week retail store test at Bryan-College Station said they were eating lamb for the first time.

Ninety per cent of these first-timers liked it, while 82 per cent of all the buyers classed it as very good or said they would recommend it to anyone.

A panel of 300 families in the metropolitan area of Waco were given samples of the three new forms of lamb—either fresh or fresh-frozen—along with instructions for roasting. The findings?

General opinion. At least 80 per cent of the housewives sampling the lamb found it excellent, good or "very nice." Over 60 per cent of these housewives said they had never bought lamb, but only 12 per cent did not find it palatable.

About the net. Over three-fourths of the homemakers liked the net and thought it easy to remove. After it was removed, the roasts held together well for slicing and serving.

Family reaction. About three-fourths of the family members sampling the shoulder and leg cuts said they would like to have them served as part of regular family meals. Fifty per cent of the scotch roast samplers felt the same way.

Price and size. The majority of housewives mentioned desirability of a total price range of $2.50 to $3.50.

This price preference—coupled with the fact that many families reported leftovers from the first meal—strongly suggested a need for roasts of 2 to 2½ pounds as well as the present 3 to 4½ pounds.

If both the leg and shoulder were divided into two smaller roasts they could be sold at the lower price level. Prices per pound would be about $1.19 for boneless shoulder roasts; $1.39 for boned leg roasts; and 69 cents for scotch roasts.

Use of leftovers. Only 10 per cent of the families sampling the shoulder ate all of it at the first meal; 15 per cent ate all the boneless legs in one sitting; and 27 per cent consumed all the scotch roast at one meal.

Leftovers, saved by 8 of 10 families, were used mostly in sandwiches or warmed over again.

Possibility of repurchase. Three-fourths of the housewives in each sample group said they would buy more. About 30 per cent said they would buy frequently; 50 per cent, occasionally.

Fresh vs. frozen. Forty-four per cent of the homemakers preferred a fresh non-frozen roast and 27 per cent a fresh-frozen; 29 per cent had no preference. But 82 per cent said they would buy fresh-frozen if available only in that form.

The pilot survey in Texas suggests that if consumers can be tempted to sample the boned netted lamb, the odds are high that they will like it. The lamb industry is now market testing in other geographic areas. (*15*)

Girth Control Exponents Expand Sales of Noncaloric Sweeteners

Synthetic sweeteners have been riding high on the wave of popularity that low-calorie soft drinks have been enjoying in our diet-conscious nation.

Use of noncaloric sweeteners in soft drinks by 1970 is expected to be about double that of 1965, judging by the trend of recent years.

Along with U.S. population expansion of 26 per cent between 1952 and 1965, there has apparently been no slackening of interest in girth control.

During this period, per capita use of noncaloric sweeteners—saccharin and cyclamate—rose 124 per cent. Total consumption in 1965 was estimated at a volume equivalent in sugar sweetness to around 350,000 tons.

At the same time, use of sweeteners produced from corn rose 39 per cent per person to total usage of around 1,500,000 tons, dry basis.

There was little change in per person use of refined sugar. Total consumption, at nearly 10 million tons, satisfied about 80 per cent of the nation's sweet tooth.

The uptrend in use of artificial sweeteners is expected to continue for some time. Most of the accelerated rate of use will probably be due to Americans' increasing thirst.

Other-than-beverage use can be expected to increase only as much as population grows.

Combination of the two factors would bring total usage of synthetics to a sweetness equivalent of about 915,000 tons of refined sugar by 1970.

Sales of sugar will probably not be affected to any great extent. But there will probably be some substitution—amounting to between 250,000 and 350,000 tons of refined sugar. This would be about 3 per cent of probable sugar consumption in 1970.

Today's saccharin and cyclamate seem to be the only examples of non-nutritive substances being substituted for nutritive products. (*16*)

Cocoa à Go-Go

A chocolate candy bar a week for everybody. That's about the size of U. S. cocoa and chocolate consumption last year, when it rose to about 3 lb. 5 oz. per person (unsweetened chocolate basis) from an average near 2 lb. 13 oz. during 1955-59. The lower price of chocolate, as well as higher incomes, appears to have been an appetite-stimulant in 1966. In the preceding 20 years, average annual consumption fluctuated only slightly. (*17*)

John Doe, Prop., Is Losing Sales Of Clothing to Big Chain Stores

Shopping for leotards or sailcloth, socks or sheeting?

Most likely places to find them are the more than 150,000 department stores, clothing specialty and accessory shops, and general merchandise stores. They all retail the products of over 35,000 U.S. textile and apparel factories.

Mail-order houses are another big market outlet for apparel products. The general merchandise stores used to be big outlets, too. But in the past decade many of the small, independent general stores that stocked clothing have gone out of business.

The largest number of retail stores selling housefurnishings, clothing and related items are still owned by individuals or partnerships. Their number is dwindling, however, with the trend toward multiunit chain stores.

In 1948, only about a fourth of apparel, accessory and general merchandise stores were run by multiunit firms. By 1963, chain stores were operating about a third of these esablishments. (*18*)

recent publications

The publications listed here are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources *are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained only by writing to the issuing agencies of the respective states.*

ALTERNATIVE CROP ENTERPRISES ON CLAY AND LOAM SOILS OF NORTH CENTRAL OKLAHOMA . . . RESOURCE REQUIREMENTS, COSTS AND RETURNS. L. J. Connor, Farm Production Economics Division, and H. D. Hall, O. L. Walker and J. F. Tomlinson, Oklahoma Agricultural Experiment Station. Okla. Agri. Expt. Sta. Processed Series P-550.

Tables showing estimated annual costs and returns per acre for producing various crops in north central Oklahoma are presented in this publication.

EUROPEAN ECONOMIC COMMUNITY IMPORT DEMAND FOR OILSEEDS AND OILSEED PRODUCTS—A SUMMARY. D. Elz in cooperation with the Foreign Development and Trade Division. ERS-For. 170.

By 1970, oilmeal consumption in the European Economic Community is projected to be 55 to 70 per cent greater than in 1962-63. About 55 per cent of the projected level of oilmeal consumption of 8.2 to 8.8 million metric tons is expected to be in soybean meal. In 1962-63, this percentage was 40 per cent.

MILK, 1960-64. Crop Reporting Board, Statistical Reporting Service. Stat. Bul. No. 390.

This continues the official series of estimates relating to milk cows on farms, milk per cow, and milk production by months and by states.

Current monthly estimates are based primarily on survey returns from producers.

GRAPHIC ANALYSIS: APPLICATIONS IN AGRICULTURAL ECONOMICS. F. V. Waugh, Economic Research Service. AH-326.

A handbook of charts and diagrams. Subjects covered include averages and distribution of data; trends, cycles, seasonals; simple regression analysis; multiple regression; joint regression; linear programming; economic theory.

BORROWER CHARACTERISTICS RELATED TO FARM LOAN REPAYMENT. E. Reinsel, Farm Production Economics Division, and J. Brake, Michigan Agricultural Experiment Station. Mich. Agri. Expt. Sta. Research Rept. 59.

The purpose of this study was to indicate which types of information on loan applications might improve the lender's ability to predict loan success. A Production Credit Association and the Farmers Home Administration provided the data for the study.

ECONOMIES OF SIZE IN FARMING, THEORY, ANALYTICAL PROCEDURES, AND A REVIEW OF SELECTED STUDIES. J. P. Madden, Farm Production Economics Division. AER No. 107.

Selected studies of the economies of size in crop production, specialized beef feedlots, and dairy farms are reviewed in this publication. Also discussed are the theoretical basis for analyzing economies of size and several alternative analytical procedures.

INDICES OF AGRICULTURAL PRODUCTION FOR 20 LATIN AMERICAN COUNTRIES (PLUS GUYANA, JAMAICA, AND TRINIDAD AND TOBAGO). Western Hemisphere Branch, Foreign Regional Analysis Division. ERS-For.-44.

The statistics include net agricultural production by total volume and per capita volume; crop production; net food production; livestock production; net agricultural production and net food production by country.

Numbers in parentheses at end of stories refer to sources listed below:

1. R. N. Van Arsdall (SM); 2. Dairy Situation, DS-314 (P); 3. A. G. Mathis (SM); 4. S. W. Voelker, Growth Problems of a Rural State (M); 5. E. G. Youmans (SM); 6. Marketing Economics Division (SM); 7. Marketing Economics Division (SM); 8. H. C. Little and A. J. Baker, Evaluating Experimental Alfalfa Hay Grades, Univ. of Nev. (M*); 9. Fruit Situation, TFS-162; 10. Dairy Situation, DS-314 (P); 11. Foreign Regional Analysis Division, The Africa and West Asia Agricultural Situation, ERS For. 186 (M); 12. G. R. Kruer, Economic Situation in Major Export Markets, For. Agri. Trade, Jan. '67; 13. R. L. Tontz and I. E. Lemon, Agricultural Exports Are Becoming More Important to U.S. Agriculture, For. Agri. Trade, Feb. '67; 14. Foreign Regional Analysis Division (SM); 15. W. B. Lester and R. E. Branson, Netted Lamb Roasts, Texas A&M Univ. (M*); 16. R. A. Ballinger, Noncaloric Sweeteners: Their Position in the Sweetener Industry (M); 17. National Food Situation, NFS-119; 18. E. H. Glade, Jr., Marketing Cotton—From Farmer to Consumer, MTS-164 (P); 19. R. C. Moncure (SM).

Speech (S); published report (P); unpublished manuscript (M); special material (SM); ****State publications may be obtained only by writing to the experiment station or university cited.***

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Sweet Spot

Swaziland is a little country with a lot of sugar.

The British protectorate in southeast Africa—scheduled for independence in 1968—is not much bigger in size than Connecticut. In the past seven years it has boosted its sugar production from 8,000 short tons to around 160,000 tons.

Sugar is the country's main foreign exchange earner, bringing in $12 million in 1965. This is about $1 million more than earnings from the second ranking export item—wood pulp and other forest products.

Exports of pineapple, high quality grapefruit, and oranges—though still relatively small—are gaining in volume.

Rice production, too, is increasing along with expansion of irrigation projects. Around 6,000 tons a year are being exported to the Republic of South Africa.

Most of the sugar exports leave from the port of Lourenço Marques, capital of neighboring Mozambique. A new bulk storage and loading terminal at the port can handle 80,000 tons of sugar at a time.

Destination is usually Britain, under terms of the Commonwealth Sugar Agreement.

Some Swazi sugar, however, winds up on U. S. supermarket shelves, as Swaziland is one of 31 foreign countries alloted a U. S. sugar import quota. The 1967 quota for Swaziland is now set at 6,450 short tons out of a total quota of 3,680,000 tons from foreign sources. (*19*)

THE FARM INDEX

CONTENTS

Numbers in parentheses at end of stories refer to sources listed at end of issue.

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